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# EarthCentric Engineering, Inc.

## ENVIRONMENTAL IMPACT ASSESSMENT

For

**The Extra Garage IV  
Chatham County, North Carolina**

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ECE Project No. 15-022

Prepared For:  
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## **PROPOSED PROJECT DESCRIPTION AND NEED:**

### **1. Describe the overall project in detail, including all proposed phases.**

The project site is located at 896 Beaver Creek Road- Apex, NC 27502, and is a combination of two parcels PIN #'s 88772 and 17696. These parcels total 19.11 net usable acres, based on a survey by R. S. Jones and Associates, Inc., located in Mebane, NC. (attachment 12). The two parcels will be combined for total development but only the western parcel (88772) will actually be developed. The parcel is located within the Jordan Lake State Recreational Area and adjoins the Popular Pointe Campground and Boat ramp on the West side.

The parcel is being developed into The Extra Garage IV- a Covered Boat and Motor Home storage facility. The Extra Garage has three other locations surrounding the Jordan Lake area, one of which is immediate proximity to the proposed development. It has been in business since 2007 offering similar services at the other facilities. These facilities draw customers from the Raleigh, Durham, Cary, and Apex neighborhoods. Additionally, customers from Angier, Holly Springs, Sanford, Pinehurst, and even Fayetteville utilize the TEG facilities. As Chatham County along with the aforementioned area is currently experiencing significant growth, demand for these facilities continues to increase.

The Extra Garage IV will be developed in response to the expanding market for first-class covered storage. This location is perfect for the area/region of customers that come to the Jordan Lake State Recreational areas. The proximity of The Extra Garage IV's location next to the State Recreational areas will provide the closest covered storage facility available. Customers from Raleigh, Apex, Cary, Holly Springs, etc. will no longer have to drive to the lake towing boats, campers, and motor homes. In addition to reducing drive/towing mileage, time, and related expenses, allowing storage close to the Jordan Lake ramps will improve traffic safety and traffic flow by reducing the need for long distance towing along highway and local roads. By reducing towing related travel time and expenses, the Extra Garage IV facility will improve the overall customer experience for boating families visiting the Jordan Lake Recreational Areas.

Parcel 88772 is currently owned by The Extra Garage SSC IV, LLC, and consists of net 15.26 acres; parcel 17696 is also currently owned by The Extra Garage SSC IV, LLC, and consists of net 3.85 acres. Although the two parcels will be combined for development purposes, only parcel 88772 will actually be used for construction of the proposed facility. While no development will be done on parcel 17696 it should be noted that both parcels were logged under a logging permit in late 2016. A copy of the logging plan is included at the end of the attachments.

Both parcels were currently logged per the attached plan but remain undeveloped. Those trees remaining along the perimeter of the site are primarily natural pine forest with some hardwood trees scattered throughout. Parcel 88772, which is to be

developed, is a narrow, rectangular shaped parcel roughly 1933 feet long by 382 feet wide adjoining the Popular Pointe State Recreational area and Beaver Creek Road. Two knolls separate the property into roughly three drainage basins draining westward to the adjoining parcel. Based on both USGS maps and soils maps, no streams or bodies of water are located on the property and no development has occurred on the property. Slopes range from 6 to 12% generally with some locally steeper slopes near the three drainage ways. Elevations range from 245 to 283 feet above sea level across the site. It is surrounded by the Army Corp of Engineers on the west border. Although a county water line is located in Beaver Creek Road, no sewer is currently available to the site and soils data suggests that the site does not contains soils suitable for septic use.

Development will be concentrated in the middle of the parcel and grading will result in a large, roughly flat pad with three large stormwater management facilities designed to control and treat stormwater to meet state and local standards. The proposed facility will have two entrances located on Beaver Creek Road, thus, providing access to multiple boat ramps and camping areas at Jordan Lake. Perimeter trees remaining from the logging operations along the property frontage with Beaver Creek Road will remain natural with minimal tree removal.

A rezoning package has been presented to Chatham County requesting the approval for a Boat and Motor Home Storage facility. This will require a zoning change from Residential to a Neighborhood Business use with a specific approval for a Covered Boat and Motor Home Storage facility. Upon approval of the construction plans by Chatham County, the site will be cleared and graded per the approved Erosion Control and Storm Water plans and stormwater management facilities constructed in accordance with approved Stormwater Management Plans. Field investigations and conversations with local residents indicate no evidence of previous development or any negative previous use or any negative materials.

The proposed development would represent the fourth location for The Extra Garage Self Storage Center offering Covered Boat and Motor Home storage services; all previously locations are currently full and have waiting lists for available units. The proposed project will contain 202 boat and RV storage units as well as a small fenced outdoor storage area and marine fuel pump; the proposed structure design will meet or exceed the local and state building codes. As proposed, the project is designed to meet the local Watershed requirements by utilizing three separate stormwater BMPs and associated piping will used to collect runoff from the development. As previously indicated, no sewer availability is located near the property and soils are unsuitable for septic fields; however, such utilities are not required for this facility as no restroom facilities are required or proposed.

Based on the above information, the project supports the current rapid growth being experienced by Chatham County and the surrounding areas, Chatham County's current planning for businesses, and customers of the Jordan Lake Recreational Area.

**2. Provide a project location map showing the surrounding areas.**

See attachment 1.

**3. Provide a project site plan showing existing and proposed facilities.**

See site Plan, attachment 2.

**4. Describe how this project fits into larger plans or connects with adjacent properties.**

As noted in item 1, proposed facility supports the activities generally associated with the Jordan Lake Recreational Area. The Extra Garage IV is proposed in response to the expanding market for first class covered storage. This location is perfect for the area/region of customers that come to the Jordan Lake State Recreational areas. The proximity of The Extra Garage IV's location next to the State Recreational areas will provide the closest covered storage facility available. Customers from Raleigh, Apex, Cary, Holly Springs, etc. will no longer have to drive to the lake towing boats, campers, and motor homes. In addition to reducing drive/towing mileage, time, and related expenses, allowing storage close to the Jordan Lake ramps will improve traffic safety and traffic flow by reducing the need for long distance towing along highway and local roads. By reducing towing related travel time and expenses, the Extra Garage IV facility will improve the overall customer experience for boating families visiting the Jordan Lake Recreational Areas.

**5. List and describe any public facilities or public benefits provided by the project.**

There are no public facilities located on the property. Development benefits the public by providing facilities for covered boat and motor home storage within the Jordan Lake Recreational Area while also reducing tow traffic along the state and local roads in the area. The project's proximity to the entrance to the Ebenezer Church Boat Ramp and Popular Pointe Campground provides immediate access to these locations from a secure, covered storage facility.

**6. Discuss the land acreage to be disturbed during each phase.**

This project will consist of only a single phase with a land disturbance area of approximately 9.3 acres.

**7. List the square footage and height (in stories) of new buildings.**

The project will consist of 2 buildings approximately 95,332 square feet total. All buildings will be one story tall.

**8. Describe proposed uses of all buildings and proposed facilities.**

The facility will be used to provide Covered Boat and Motor Home storage services.

**9. Show number of parking spaces in parking lots and decks.**

Two parking spaces are provided for use as temporary parking while opening the gates to the facility.

**10. Show areas to be cleared, graded, filled, paved, and landscaped.**

See Site Plan, attachment 2.

**11. Show connections to existing utility and sewer lines or new utilities.**

This project will not have any public water or sanitary sewer connections to existing utilities. The only utility connection will be electrical.

**12. Show wastewater management systems on a map.**

As noted, no sanitary sewer or septic facilities are required for this site.

**13. Show proposed areas of impervious and semi-impervious surfaces.**

See Site Plan, attachment 2

**14. Show and describe any proposed stormwater control devices.**

See Site Plan, attachment 2. All water runoff will be directed into underground pipes that flow into one of three storm water BMPs on site.

**ALTERNATIVES ANALYSIS**

**1. Discuss and compare all reasonable development alternatives (site selection, facility layout, utilities, stormwater management, construction methods, open space preservation, and any other pertinent alternative considerations).**

The parcel has no available water or sewer connections and a review of soils in the area indicate that it is unsuitable for septic fields due to poorly draining soils; therefore, alternative uses for this site are very restricted. Since boat and motor home storage facility do not require any water or sewer and the site has close proximity to the entrance of Ebenezer Church Boat Ramp and the Popular Pointe Campground, this site is ideally suited for the proposed use.

Additionally, due to the sites location in the Jordan Lake Watershed, a 24% limit is applied regarding impervious surfaces. As designed, the facility maximizes the benefits of placing the developed area nearer to the road frontage where elevations are

generally higher and grades are generally flatter in order to allow for placement of the required stormwater devices in the lower areas of the site near the natural discharge points. This layout allows for greater balancing of the grading, reduced clearing and greater ability to mimic the natural drainage patterns of the site.

**2. Discuss how the preferred alternative was selected and its benefits relative to other alternatives (including a no-build alternative, if applicable).**

As noted above, the existing site is not suitable for development of typical residential dwellings, daycare facilities, recreation camp or commercial based projects due to the lack of suitable soils for septic use. Similarly, the lack of suitably well drained soils reduces the sites suitability for agricultural purposes. Additionally, the site is not suitable for use as a hunting or fishing club due to its proximity to Beaver Creek Road and the Poplar Pointe Campground and the limited acreage available.

Although a no-build alternative is feasible, the same characteristics that make this site unsuitable for typical development make it ideal for development as proposed. Both its proximity to the Beaver Creek Road and the Poplar Pointe Campground make it ideal for Boat/RV storage while the lack of useable soils for septic do not create a hindrance.

**EXISTING ENVIRONMENT AND PROJECT IMPACTS**

**For each resource topic below, describe:**

- A. Existing resource and conditions**
- B. Anticipated impacts (short-term construction impacts, long-term operation impacts, and indirect or secondary impacts)**
- C. Discuss how potential impacts to the resource will be avoided and minimized through alternative selection, design strategies, construction methods, and long-term maintenance procedures.**
- D. For unavoidable impacts, describe whether any compensatory mitigation is planned or required.**

**1. Geography**

- **Discuss the geographic setting, geology, and topography of the project area and adjacent areas.**

The site consists of two parcels, 896 & 1083 Beaver Creek Road. The first proposed entrance to the site is located ~1,000 lf north of the intersection of Tody Goodwin Road (SR 1900) and Beaver Creek Road (SR 1008) on the west side of Beaver Creek Road. The coordinates of 35°43'24.06" N, 79°00'25.00" W generally correspond to the center of the property.

The soils on the site are identified as Creedmoor-Green Level Complex, Group C soils.

Based on both USGS maps and soils maps, no streams or bodies of water are located on the property and no development has occurred on the property. Slopes range from 6 to 12% generally with some locally steeper slopes near the three drainage ways. Elevations range from 245 to 283 feet above sea level across the site. Drainage flows generally westward along three drainage ways. All areas to be graded are shown on the site plan included.

- **Provide topographic map of the property and surrounding area, use the county GIS website topography (2' contour interval) data at a scale appropriate for the project size, i.e. 1"=100', etc.**

See attachment 3, USGS Topographic map and County GIS Topographic map.

- **Identify any 100 year floodplain (FEMA Special Flood Hazard Areas) on or adjacent to the property. If present, provide an appropriate scale map of these flood-prone areas defined by the NC Flood Mapping Program.**

There are no FEMA flood hazards located on the property. There are FEMA flood hazards nearby on both sides of Beaver Creek Road. See attachment 4.

- **Show areas that will be graded or filled, and provide estimated cut/fill volumes.**

The proposed areas to be graded will be within the footprint of the proposed development. Preliminary cut/fill volumes are estimated to be roughly 34,000 cy of cut and 36,000 cy of fill which indicates a roughly balanced site.

- **If the project includes pond or dam work, show areas that will be flooded.**

Although stormwater management facilities are intended as shown in the plan set, no areas will be flooded.

## 2. Soils and Prime Farmlands

- **Identify dominant soils in the project area (County GIS or NRCS website) and show on a map.**

Soils on site are CrB & CrC. Both represent Creedmoor- Green Level Complex soils of Hydrologic Group C. See attachment 5.

- **Discuss any soil constraints (fill, wetland soils, septic suitability, slopes, etc.), and indicate those areas on a map.**

The soil is typical for the Jordan Lake area and has limited potential. The soil has been deemed as unsuitable for conventional septic.

- **Describe any soil disturbance or contamination expected as a result of this project**

Typical grading activities (e.g. localized cutting and filling) are proposed for the site, see attached plans. No soil contamination is expected.

- **If contamination is expected, discuss containment plans and procedures.**

No contamination is expected during construction or after the site is in use.

- **If soil will be relocated, specify the number of square yards / feet to be moved, and its relocation site.**

As noted, cut/fill estimates indicate a roughly balanced site and no material is intended to be relocated offsite.

- **Describe runoff management plans for the project.**

As per the attached plans the stormwater will be directed via a pipe system to one of three on site Stormwater Control Measures (SCMs).

- **If soil disturbance is proposed, describe the off-site impacts expected from this activity.**

No offsite impacts due to onsite soil disturbance are expected. State and county required sediment and erosion control measures will be used during construction.

- **Provide a map of any prime or unique farmland soils in the project or service areas; include references used to make this determination.**

Prime Farmland Soils are indicated on attachment 6. It should be noted, however, that initial soils review indicates poorly draining soils are prevalent onsite and that no areas were identified as being suitable for septic use. This also indicates that the soils are unlikely to be suitable for agricultural use.

- **Describe impacts to prime or unique farmlands soils, including acreage estimates of lost farmland soils and retained farmland soils.**

This site consists mostly of prime farmland soils per Chatham County GIS. The entire disturbed area of 9.3 acres soils will impact Prime Farmland soils; however this land has not been farmed in many years, if at all. Additionally, it should be noted that initial soils review indicates poorly draining soils are prevalent onsite and that no areas were identified as being suitable for septic use. This also indicates that the soils are unlikely to be suitable for agricultural use.



### 3. Land Use

- **Provide a map showing current use of land on the site and surrounding properties.**

See attachment 7.

- **Discuss how the current land use fits into the surrounding area (conservation, development, ecological function, etc.)**

The current use of the land is vacant residential zoned land. This is similar to a lot of the large tracts of land in the area.

- **Provide the current zoning of the project site and the surrounding areas.**

See attachment 8

- **Discuss how the proposed uses fit into the intended land use of the area (conservation, development, ecological function, quality of life).**

The proposed use of boat and RV storage fits well with the County development of services for the Jordan Lake Recreational Area customers. This will serve local clients as well as visiting guests from all over the state.

- **Indicate whether zoning or local land use plans will need to be changed after project completion.**

A zoning change is requested with this development from residential to Neighborhood Business. No further zoning changes or land use plans area anticipated after completion of this project.

### 4. Wetlands

- **Indicate whether wetlands are present; describe the basis for determination and the identity of the person who made the determination.**

There are no wetlands within the project area Chatham County GIS. See attachment 9 for water resources.

- **Shows identified wetlands on a map, and describe all relevant details, such as acreage, types, delineation, function, etc.**

Not applicable, as there are no wetlands on site.

- **If wetlands are to be filled, specify the number of acres that will be affected.**

Not applicable, as there are no wetlands on site.

- **List all required permits and permitting agencies.**

No wetlands permits are applicable to this project.

- **If any diversions/additions/withdraws of surface water will affect wetlands, describe those activities.**

There are no wetlands on site, and as such no affects to wetlands are expected.

## **5. Public Lands and Scenic, Recreational, and State Natural Areas**

- **Provide a map of County or municipal parks, scenic, recreational, or state natural areas (SNHAs, State or Federal Forests, Etc.) on or adjacent to the site / project area.**

The tract sits next to the Jordan Lake Recreational Area. This is a highly used boating and camping area where customers cannot leave the boats in the water overnight. Therefore, a Covered Storage facility next door is a big benefit and provides a valuable service to the customers. Attachment 10 shows the Public Lands, and Army Corps of Engineers Property.

## **6. Areas of Archaeological or Historic Value.**

- **Discuss any archaeological or historical studies of the project location; provide relevant references.**

No archaeological or historical studies have been completed for the Site.

- **Describe and identify on a map structures (i.e., walls, buildings, etc.) on the site and provide estimated ages of those structures.**

As per site reconnaissance, no structures are present on the site.

- **Describe all impacts to any archaeological or historical resources in the proposed project area.**

No impacts to archeological or historical resources are proposed.

- **Describe plans for demolishing or rebuilding any structures.**

No impacts to archeological or historical resources are proposed.

- **Provide photographs of any significant resources, including all structures older than 50-years.**

No structures were present on site.

- **Provide all relevant correspondence with the Chatham County Historical Association and NC SHPO**

No correspondences were had with the above agencies as this is not applicable to this project.

## **7. Air Quality**

- **Describe the project's impacts on ambient air quality.**

The Site will not have any direct impact on ambient air quality. During the construction phase air emissions will increase due to the use of heavy equipment and the burning of tree stumps but this increase will be negligible.

- **Describe plans for any open burning during or after construction.**

A burn permit will be obtained to allow for successful burning of the remaining stumps on site. This has been completed on the three previous TEG projects in the County without any problems.

- **Indicate the number of proposed parking spaces, if applicable.**

There will be no parking spaces for this project.

- **Describe whether the project will increase odor levels, or the likelihood of odor complaints.**

The project will not generate any increase in odors after construction. The smell of freshly turned soil (normal aerobic processes) can sometimes be detected at close range during earth grading however no homes are in close enough proximity to experience this therefore the likelihood of receiving complaints is extremely low to absent.

- **Provide a copy of any required traffic studies.**

No traffic studies have been completed or requested at this time.

## **8. Noise Levels**

- **Discuss current noise levels; use a benchmark, if possible.**

The parcel is surrounded by government land except for an abandoned trailer to the south and a private residence to the north. There is currently slight road noise from Beaver Creek road.

- **Describe any increase in noise levels expected from this project.**

This project is not expected to have any adverse effect on noise levels after construction. During construction, the heavy equipment being used will temporarily increase noise levels slightly but the existing adjacent homes are situated away from the project area and should have very little impact from the construction noises.

- **Specify the distance at which the increased noise will be heard.**

The temporary noise generated by the construction of the site will likely not be heard beyond the adjacent highway.

- **Discuss whether surrounding properties will be affected by noise levels.**

The existing residences to the north and south and across Beaver Creek road may be able to hear the construction equipment during working hours but noise should be minimal and is not expected to go beyond those three residences. After construction, no noise should be heard offsite.

- **If commercial uses are proposed, specify the hours of operations.**

Hours of operation will be from 6 AM to 11 PM, 7 days a week.

## 9. Light Levels

- **Describe lighting plans for the project, including how lighting will impact adjacent residents and wildlife.**

The lighting for the project will be angled down on the outside of the building meeting the required code. There are two roadway signs that will be near the entrances that will operate on a light sensor timer. The lights on the inside of the courtyard will activate at night and shine downward to illuminate the driving courtyard area. None of the provided lighting is expected to impact the adjacent residence. The lighting is not expected to have any adverse effects on wildlife.

## 10. Surface and Groundwater Resources (discuss separately)

- **Identify and provide a map of surface waters in the project area. Describe groundwater (aquifers) in the project area.**

There are no surface waters in the project area or on site. See attachment 9. Groundwater depths have not been determined yet.

- **Include names, locations, classifications, and use support ratings for surface waters.**

The site is in the Jordan Lake watershed. Classification WS-IV NSW.

- **Specify and show on a map the river basin in which the project is located.**

All of Chatham County, and thus this site is located in the Cape Fear River Basin. This site lies in the Jordan Lake Critical Watershed. See attachment 11

- **Discuss any known groundwater quality issues.**

There are no known groundwater quality issues.

- **Discuss drinking water sources.**

There are no drinking water sources in the project area.

## **11. Fish and Aquatic Habits**

- **Describe fish and aquatic habits in and adjacent to the site/project area.**

There are no fish or aquatic habits in the project area or immediately adjacent to the site.

- **Discuss impacts to fish and aquatic life and their habits, including a map showing those habitats.**

No impacts to fish or aquatic life are expected with this project.

## **12. Wildlife and Natural Vegetation**

- **Describe and provide a map of natural community types on and adjacent to the site/project area.**

The majority of the Site is comprised mostly of southern yellow pine species with a mixed hardwoods / conifers area located near the center of the site. The property on the east side of Beaver Creek is split with Evergreen shrub-land on the west side and Southern Yellow Pine on the east side. These same communities are common on the surrounding properties where forest community systems are present. The species located on the Site are not endangered or threatened and clearing will be kept to just what is necessary for the development.

- **List the species of dominant plants and animals observed on the site that typify those communities.**

See above for typical vegetation. Terrestrial animal species common to frequent these community types include raccoons, opossum, white-tail deer, field mouse, Carolina chickadee, cardinal, American robin, tufted titmouse, and red-eyed vireo.

- **Evaluate and discuss whether suitable habitat exists for rare, threatened, and/or endangered species, as described by the NC Natural Heritage Program.**

Species listed for Chatham County include the bald eagle, Cape Fear shiner, red-cockaded woodpecker, and harperella.

Bald eagle – Individuals could nest in trees; however, no nesting trees were observed on the Site. No Bald Eagle individuals were observed.

Cape Fear shiner – Given the proximity to the Jordan Lake, the Cape Fear shiner could utilize the surrounding stream channels. However, no streams are located onsite and no Cape Fear shiner individuals were observed.

Red-cockaded woodpecker (RCW) – Habitat may be suitable for Red-Cockaded woodpeckers; however, no RCW individuals were observed.

Harperella – This species is primarily found along the Deep River. The preferred habitat does not exist on the Site. No harperella individuals were observed.

- **If wildlife will be displaced, discuss any limitations of adjacent areas to support them.**

No wildlife is expected to be displaced. The site adjoins the Popular Pointe Campground entrance and is surrounded by the Jordan Lake Recreational Area. This acreage provides a huge area (37,000 AC +/-) for wildlife to live and a good supply of food for them.

- **Identify, list, and describe the distribution of the invasive species present on the site. Consult the NC Botanical Garden's web page, "Plants to avoid in the Southeast US" for a list of invasive species common to the region.**

No invasive species evaluation has been done at this time.

- **If forests will be cleared, discuss the extent of planned deforestation and specify the forestry methods to be used, including BMPs.**

Heavy equipment typically used for land clearing will be used on this project. Tree protection fencing/sediment and erosion control fencing will be used to demarcate the areas where trees will not be cut.

### **13. Hazardous Materials**

- **List all hazardous materials to be stored or introduced during construction or operation.**

Marine fuel will be stored in above ground tanks and dispensed on site after construction via a single fuel pump.

- **For each hazardous material, other than in deminimis quantities or for routine housekeeping purposes, describe the procedures to be used to ensure their proper management, storage, and disposal.**

All required gasoline handling, containment, storage and disposal regulations will be followed.

#### **State and Federal Permits Required**

- **An NCDOT Driveway permit will be requested and approved prior to project completion.**

#### **References**

Chatham County NC GIS  
USDA Soils Mapping  
USGS Topographic Survey  
FEMA Mapping

#### **Attachments**

Attachment 1	GIS Ortho photo, for site location
Attachment 2	Copy of proposed site plan
Attachment 3	Chatham County GIS Topographic Map USGS Topographic Map
Attachment 4	FEMA Firmette
Attachment 5	GIS/USDA Soils Survey Map
Attachment 6	Prime Farmland Soils Map
Attachment 7	Natural Communities Map
Attachment 8	Current Zoning Map
Attachment 9	Water Resources Map
Attachment 10	Public & Scenic Lands
Attachment 11	Watershed Map
Attachment 12	Survey
Attachment 13	Logging Plan